



Montana Department of

**Environmental Quality**

WATER PROTECTION BUREAU

**RECEIVED**

FEB 18 2009

DEQ/WPB  
PERMITTING & COMPLIANCE DIV.

Agency Use

Permit No.:

Date Rec'd

Amount Rec'd

Check No.

Rec'd By

FORM  
NMP

## Nutrient Management Plan

**READ THIS BEFORE COMPLETING FORM:** Before completing this form (Form NMP), Concentrated Animal Feeding Operation (CAFO) operators need to read the General Permit, particularly Part IV.A. CAFO operators also need to read the "Instructions For Filling Out Form NMP," found at the back of the Form. Form NMP is intended to help CAFO operators develop a site-specific Nutrient Management Plan, in compliance with Part IV.A of the General Permit and all applicable State rules and statutes. Your Nutrient Management Plan must be maintained at the site as required in Part III of the General Permit. Sections B and C on your Form NMP must state the information exactly the same way as it was stated on the most recently submitted version of your Form 2B. Attach additional pages as necessary, indicating the corresponding section number on this NMP form. For additional help in filling out this form please read the attached instructions. The 2008 General Permit, current fee schedule, and related forms are available from the Water Protection Bureau at (406) 444-3080 or <http://www.deq.mt.gov/wqinfo/MPDES/CAFO.asp>

### Section A - NMP Status (Check one):

☒ New No prior NMP submitted for this site.

☐ Modification Change or update to existing NMP.

Permit Number: MT 6010249 (Specify the permit number that was previously assigned to your facility.)

### Section B - Facility or Site Information:

Site Name DEAN AND KAREN WANG RANCH

Site Location 199 YELLOWBRICK ROAD, T6N,R59E, NE $\frac{1}{4}$ NE $\frac{1}{4}$  SECTION 4

Nearest City or Town BAKER MT County FALLON

### Section C - Applicant (Owner/Operator) Information:

Owner or Operator Name DEAN AND KAREN WANG

Mailing Address PO BOX 702

City, State, and Zip Code BAKER MT 59313

Phone Number ( 406 ) 778-3382 (WORK) 406-778-3672 (HOME)

# Section D - NMP Minimum Elements

## 1. Livestock Statistics

1. CATTLE - STEER CALVES 350 HD 500#	55 DAYS - 9/1 TO 10/25	510 TONS
2.	350 X 55 DAMS X 53# ÷ 2000	
3. CATTLE - HEIFER CALVES 100 HD 450#	55 DAYS - 9/1 TO 10/25	132 TONS
4.	100 X 55 X 48# ÷ 2000	
5. CATTLE - HEIFER CALVES 450 HD 550#	60 DAYS - 10/26 TO 12/25	810 TONS
6.	450 X 60 X 60# ÷ 2000	
7. CATTLE - HEIFER CALVES 450 HD 625#	60 DAYS - 4/1 TO 6/1	931 TONS
8.	450 X 60 X 69 ÷ 2000	

Method used for estimating annual manure production:

Total 2373

PAGE 13 & 14 DEQ 9 TABLE 1, DEQ 9, PAGE 13

## 2. Manure Handling

Describe manure handling at the facility:

BACKGROUNDING LOT WITH CONCRETE APRONS AND FENCELINE FEEDBUNKS.

SCRAPE AND SPREAD ON ADJACENT FIELDS ANNUALLY, SCRAPING COMPLETED WITH FRONT END LOADERS AND SKID STEER LOADERS. SPREADERS ARE TRUCK MOUNTED. COMMERCIAL SIZE.

Frequency of Manure Removal from confinement areas:

ANNUALLY, SUMMER OR EARLY FALL. CUSTOM FEEDLOT CLEANERS ARE HIRED TO SCRAPE PENS AND SPREAD ON THE FIELDS WITH SPREADER TRUCKS.

Is this manure temporarily stored in any location other than the confinement area? ☐ Yes ☒ No  
If so then how and where?

Is manure stored on impervious surface? ☐ Yes ☒ No

If yes, describe type and characteristics of this surface:

**3. Waste Control Structures** PROPOSED - PER ATTACHED DIAGRAM

	Length (ft)	Width (ft)	Depth (ft)	Volume (cubic ft or gallons)
1. FILTER STRIP - NORTH LOT	140	300		
2. CONSTRUCTION PER MT NRCS FILTER STRIP SPEC #393				
3. GROUND SHAPING < 3% SLOPE				
4. FILTER STRIP SOUTH LOT	180	670		
5.				
6. CHANNEL CLEAN WATER TO THE SOUTH FROM BUILDINGS RATHER THAN ALLOWING IT				
7. TO FLOW WEST THROUGH THE SOUTH LOT.				
8.				
9.				
10.				
11.				
12.				

**4. Disposal of Dead Animals**

Describe how dead animals are disposed of at this facility:

DEAD ANIMALS ARE BURIED AS SOON AFTER DEATH AS POSSIBLE, AT LOCATION "X" IN SECTION 4, T6N R59E. THE TOPOGRAPHY IS RAISED AND LEVEL. NO RUNOFF TRAVELS THROUGH THIS AREA. ANIMALS ARE COVERED WITH A MINIMUM OF 2 FEET OF COVER. SEE ATTACHED FSA MAP.

**5. Clean Water Diversion Practices**

Describe how clean water is diverted from production area:

CLEAN WATER IS DIVERTED FROM PRODUCTION AREA BY A NATURAL DIVIDE UPON WHICH THE BUILDINGS ARE LOCATED, AND DIKING BETWEEN BUILDINGS AND PRODUCTION AREA TO CHANNEL WATER FROM THE HOMESTEAD TO THE SOUTH. NATURAL DIVIDE REFLECTED ON MAP AS DOTTED LINE.

**6. Prohibiting Animals and Wastes from Contact with State Waters**

Describe how animals and wastes are prohibited from direct contact with state waters:

LIVESTOCK WILL BE FENCED AWAY FROM ADJACENT DRAINAGES, GRASS FILTER STRIPS AND TREE ROWS, AND LANDSCAPED AND TERRACED AREAS, A MINIMUM OF 150 FEET.

**7. Chemicals and Contaminants**

Describe how chemicals and other contaminants are handled on-site:

NO CHEMICALS ARE STORED WITHIN THE CONFINED FEEDING AREA. ALL CHEMICALS ARE STORED IN SHOP "A", WHICH HAS A CONCRETE FLOOR AND IS HEATED.

**8. Best Management Practice (BMPS)**

Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control runoff of pollutants from facility's **production area**. Indicate the location of these measures. Include a schedule for implementation of each of these measures. Examples of BMP measures could include but are not limited to: constructing ditches, terraces, and waterways above an open lot to divert clean water run on; installing gutters, downspouts and buried conduits to divert roof drainage; providing more roofed area; decreasing open lot surface area; repairing or adjusting water systems to minimize water wastage; using practical amounts of water for cooling purposes; recycling water if practical and applicable.

EXISTING CORRALS AND BUILDINGS LOCATED SOUTH AND WEST OF CONFINEMENT AREAS WILL BE REMOVED. LAND IN FILTER STRIP AREA TO BE SHAPED AND SEEDED PER MT NRCS FILTER STRIP SPECS #393. CLEAN WATER FROM HOMESTEAD WILL BE CHanneled TO THE SOUTH AWAY FROM THE SOUTH FEEDLOT. TERRACING AND DIKING WILL BE USED TO SLOW THE RUNOFF WHERE NECESSARY, FOR BOTH CLEAN WATER AND PRODUCTION AREA RUNOFF. FENCES AND A ROAD ON THE NORTH EDGE OF THE NORTH FEEDLOT WILL BE MOVED AND FILTER STRIPS INSTALLED.

Describe in detail all temporary, permanent and structural Best Management Practices (BMPs) which will be used to control runoff of pollutants from facility's **land application area**. Indicate the location of these practices. If not already in use, include a schedule for implementation of each of these measures. Attached details and specifications may be used to supplement this description. Examples of BMP measures could include but are not limited to: maintaining setbacks from surface waters for manure applications; managing irrigation practices to prevent ponding of wastewater on land application sites; never spray irrigating wastes onto frozen ground; consulting with the Department prior to applying any liquid waste to frozen or snow-covered ground; applying wastes at agronomic rates.

Plant sampling/tissue analysis	yes/no	Rotational grazing	yes/no
Conservation or reduced tillage	yes/no	Manure injection or incorporation	yes/no
Terraces or other water control structures	yes/no	Contour plantings	yes/no
Riparian buffers or vegetative filter strips	yes/no	Winter "scavenger" or cover crops	yes/no
Other examples			

MANURE TO BE SPREAD ON PERMANENT CRESTED WHEATGRASS PASTURE. APPLIED WELL FROM DRAINAGE ON EAST AND NORTH.

## 9. Implementation, Operation, Maintenance and Record Keeping – Guidance

The permittee is required to develop guidance addressing implementation of NMP, proper operation and maintenance of the facility, and record keeping as described in Part II of the permit.

Has a guidance document been developed for the facility? ☒ Yes ☐ No

Certify the document addresses the following requirements:

Implementation of the NMP:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Facility operation and maintenance:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Record keeping and reporting:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Sample collection and analysis:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Manure transfer:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

Provide name, date and location of most recent documentation:

MANAGEMENT PLAN PER NMP AND CNMP DATED 2/11/09.

If your answer to any of the above question is no, provide explanation

NONE TRANSFERRED

## Section E – Land Application

Will manure be land applied to land either owned, rented, or leased by the owner or operator of the facility?

☐ No If no, then provide an explanation of how animal waste at this site are managed.

☒ Yes If yes, then the information requested in Section E must be provided.

SEE ATTACHED TOPO AND FSA MAPS

### Photos and/or Maps

Attach an aerial photograph or map of the site where manure is to be applied. (Use multiple photos/maps if necessary to show required details.) The photo(s)/map(s) must be printed on no larger than an 11"x17" piece of paper, and must clearly identify the following items:

- Individual field boundaries for all planned land application areas
- A name, number, letter or other means of identifying each individual land application field
- The location of any down-gradient surface waters
- The location of any down-gradient open tile line intake structures
- The location of any down-gradient sinkholes
- The location of any down-gradient agricultural well heads
- The location of all conduits to surface waters
- The specific manure/waste handling or nutrient management restrictions associated with each land application field.
- The soil type(s) present and their locations within the individual land application field(s)
- The location of buffers and setbacks around state surface waters, well heads, etc.

**Land Application Equipment Calibration** TECHNIQUE OF DEQ9 OR THEIR OWN PAGE 22 & 23  
Describe the type of equipment used to land apply wastes and the calibrating procedures:

COMMERCIAL SPREADERS WILL BE HIRED. DOCUMENTATION OF THE METHOD OF  
CALIBRATION WILL BE OBTAINED FROM THEM AS TO TYPE AND METHOD OF CALIBRATION.

### Manure Sampling and Analysis Procedures

A representative manure sample will be analyzed a minimum of once annually for Total Nitrogen, and Total Phosphorus. Analysis results will be reported in lbs/ton or lbs/1,000 gal. Results of these analyses will be used in determining application rates for manure, litter, and process wastewater.

Manure Sample collection will occur according to the following method:

☐ The recommended method(s) found in Section 5 of Department Circular DEQ 9 PAGE 21

☒ Other (describe) ANNUALLY, ASKING FOR RESULTS IN POUNDS PER TON

### Soil Sampling and Analysis Procedures

A representative soil sample from the top 6 inch layer of soil in each field will be analyzed for phosphorus content at least once every five years. Analyses will be conducted by a qualified laboratory, using the Olsen P test. Results will be reported in parts per million (ppm) and will be used in determining application rates for manure, litter, and process wastewater.

Soil sample collection will occur according to the following method:

☒ The recommended method(s) found in Section 5 of Department Circular DEQ 9 PAGE 22

☐ Other (describe) TEST EVERY FIVE (5) YEARS. SEE ATTACHED LETTER FROM FALLON/  
CARTER EXTENSION AGENT. TESTING TO BE DONE BY LOCAL AGRONOMY CENTER.

**M**  
**MONTANA**  
**STATE UNIVERSITY**  
**EXTENSION**

02/09/09

To: Montana Department of Environmental Quality

From: Nico Cantalupo, MSU Fallon/Carter Counties Extension Agent

**Fallon & Carter  
Counties**

  
RE: Soil Nitrate and Phosphorous Levels for Fallon County

With regards to the levels of Nitrate and Phosphorous typically found in the soils in Fallon County. Using the Olsen P or bicarbonate P tests our soils typically run from 8-10 ppm which would qualify them as low or not a lot of phosphorous is available in our soils. For nitrates or N which is expressed in pounds available per acre, the same holds true as phosphorous the available N in our soils is low, typically less than 20# available per acre. With these levels you can also conclude that the organic matter, OM, levels are typically well below 2%.

*Montana State University,  
U.S. Department of  
Agriculture and Montana  
Counties Cooperating.  
MSU Extension is an  
equal opportunity/  
affirmative action provider  
of educational outreach.*

10 W. Fallon  
P.O. Box 850  
Baker, MT 59313-0850  
[www.msuextension.org](http://www.msuextension.org)

Tel (406) 778-7110  
Fax (406) 778-3431  
Email [falloncarter1@montana.edu](mailto:falloncarter1@montana.edu)

**Mountains & Minds**

**Land Application Data-Narrative approach**

The following must be filled out for each field to which manure, litter or process wastewater will or may be applied for the period of the permit (5 years). Use as many sheets as necessary to fulfill this requirement. Fields with identical crops and soil types may be grouped together.

**Crops and Manure**

<b>Crop 1 (year 1 or ?) plant species</b>	
Irrigated (Y/N)	CRESTED WHEATGRASS
Yield Goal (ton/ac or bushel/ac) FERT GUIDE P. 48 DEQ9	N/A
N Content of soil as nitrate (lbs/acre or ppm) P. 52	3/4 T/AC
P Content of soil as P <sub>2</sub> O <sub>5</sub> (lbs/acre or ppm) P. 69	16 #/AC - COUNTY AVE.
Time of Year When Application will Occur (month)	8 - 10 PPM
Application frequency (per year by month)	AUGUST
Form of manure (liquid/solid)	1 TIME PER YEAR
Method of Application	SOLID
Is manure incorporated or broadcast?	COMMERCIAL SPREADER
Frequency of Application (yearly, biannual, etc.?)	BROADCAST
<b>Crop 2</b>	ANNUAL
Irrigated (Y/N)	
Yield Goal (ton/ac or bushel/ac)	
N Content of soil as Nitrate (lbs/acre or ppm)	
P Content of soil as P <sub>2</sub> O <sub>5</sub> (lbs/acre or ppm)	
Time of Year When Application will Occur (month)	
Application frequency (per year, by month)	
Form of manure (liquid/solid)	
Method of Application	
Is manure broadcast, injected or incorporated?	
Frequency of Application (Annual, Biannual, etc?)	



## Phosphorus Risk Assessment

The permittee shall assess the risk of phosphorus contamination of state waters. An assessment shall be conducted for each field, under the control of the operator, to which manure, litter or process wastewater will or may be applied. If a new field is added in the future, then the permittee must submit a revised (modified) NMP. The permittee has the option of using either Method A or Method B (below) to complete the assessment. Copies of all tables and calculations used to complete the assessments, as well as the results of the assessments, shall be submitted to the Department and copies shall be maintained on-site at the facility and available for Departmental review. The results of the assessments shall be used to determine the appropriate basis for land application of wastes from the facility.

### Method Used

Indicate which method will be used to determine phosphorus application:

- ☒ Method A – Representative Soil Sample  
☐ Method B – Phosphorus Index

### Method A – Representative Soil Sample

- Obtain one or more representative soil sample(s) from the field.
- Have the sample analyzed for Phosphorus by a qualified lab. The “Olsen P test” must be used for the analysis, and the result must be reported in parts per million (ppm).
- Using the results of the Olsen P test, determine the application basis according to the Table below

Soil Test	
Soil P (ppm)	Application Basis
<25.0	Nitrogen Needs Of Crop
25.1 - 100.0	Phosphorus Needs Of Crop
100.0 - 150.0	Phosphorus Needs up to Crop Removal Rate
>150.0	No Application

### Method B – Phosphorus Index N/A

- Complete a Phosphorus Index according to for each crop grown on each field. Complete table in Appendix A to calculate phosphorus index. For information on filling out specific sections Appendix A, please refer to Attachment 2 of Department Circular DEQ 9.
- Using the calculated Total Phosphorus Index Value, assign the overall site/field vulnerability to phosphorus loss according to the table below.

Total Phosphorus	
Total P Index	Site Vulnerability
<11	Low
11-21	Medium
22-43	High
>43	Very High

- Using the calculated Site Vulnerability to Phosphorus Loss, determine the appropriate application basis according to the table below.

Site Vulnerability to Phosphorus Loss	
Site Vulnerability	Application Basis
Low	Nitrogen Needs
Medium	Nitrogen Needs
High	Phosphorus Need Up to Crop Removal
Very High	Phosphorus Crop Removal or No Application

- d) The permittee will complete the *Nutrient Budget Worksheet*, below, for each crop grown on each field to which manure or process waste water is or may be applied during the first year of application. A copy of each Nutrient Budget Worksheet will be maintained on site, and a copy will be submitted to the Department.

### Nutrient Budget Worksheet

**Site/Field:**

	Crop Nutrient Needs, lbs/acre included in Department Circular DEQ 9 P. 52	15#/AC	N/A
(-)	Credits from previous legume crops, lbs/acre (from DEQ-9), as applicable	-0-	N/A
(-)	Residuals from past manure production, lbs/acre (lbs/acre applied in previous year(s) x fractions listed in DEQ-9)	-0-	N/A
(-)	Nutrients supplied by commercial fertilizer and Biosolids, lbs/acre	-0-	N/A
(-)	Nutrients supplied in irrigation water, lbs/acre	-0-	N/A
(A)	<b>= Additional Nutrients Needed, lbs/acre</b>	15#/AC	N/A
	Total Nitrogen and Phosphorus in manure, lbs/ton or lbs/1,000 gal (from manure test)	TABLE 2 DEQ 9 P. 14 21	N/A
(x)	Nutrient Availability factor (for Nitrogen based application see DEQ-9, below; for Phosphorus based application use 1.0)	TABLES 11, 12 P. 27 & 28 DEQ .5	N/A
(B)	<b>= Available Nutrients in Manure, lbs/ton or lbs/1,000 gal</b>	10.5#/TON	N/A
(A)	Additional Nutrients needed, lbs/acre (calculated above)	15#/TON	N/A
(/) (B)	Available Nutrients in Manure, lbs/ton or lbs/1,000 gal (calculated above)	10.5#/TON	N/A
A/B	<b>= Manure Application Rate, tons/acre or 1,000 gal/acre</b>	1.43 T/AC	N/A

### Comments:

ONLY CROP IS CRESTED WHEATGRASS. NO CROP ROTATION.

NO PLAN "B"

MANURE APPLICATION RATES WILL BE ADJUSTED ANNUALLY BASED UPON

MANURE ANALYSIS AND SOIL SAMPLES.

**Section I - CERTIFICATION****Permittee Information:**

This Form NMP must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

**All Permittees Must Complete the Following Certification:**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA]

**A. Name (Type or Print)**

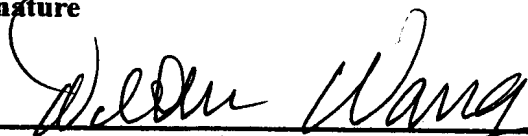
DEAN WANG

**B. Title (Type or Print)**

OWNER

**C. Phone No.**

406-778-3672 H  
406-778-3382 W

**D. Signature****E. Date Signed**

2/11/09

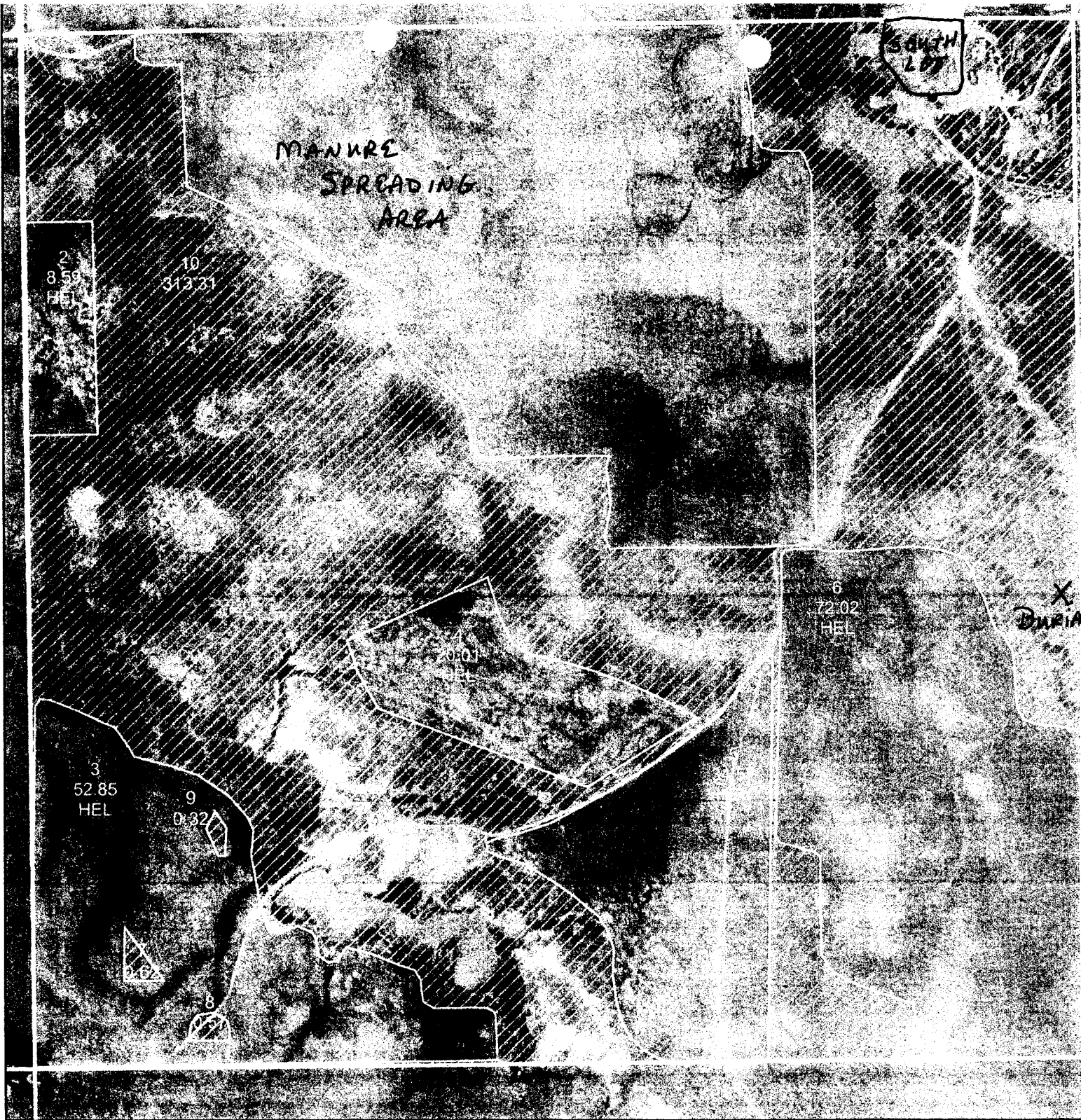
Return the Form NMP, Nutrient Management Plan to:

Department of Environmental Quality  
Water Protection Bureau  
PO Box 200901  
Helena, MT 59620-0901  
(406) 444-3080

**RECEIVED**

FEB 18 2009

DEQ/WPB  
PERMITTING & COMPLIANCE DIV.



February 14, 2008

Farm - Tract  
2266---1632

Section-Township-Range

4 6 59

Dean Wang

## Fallon County

☒ Rangeland



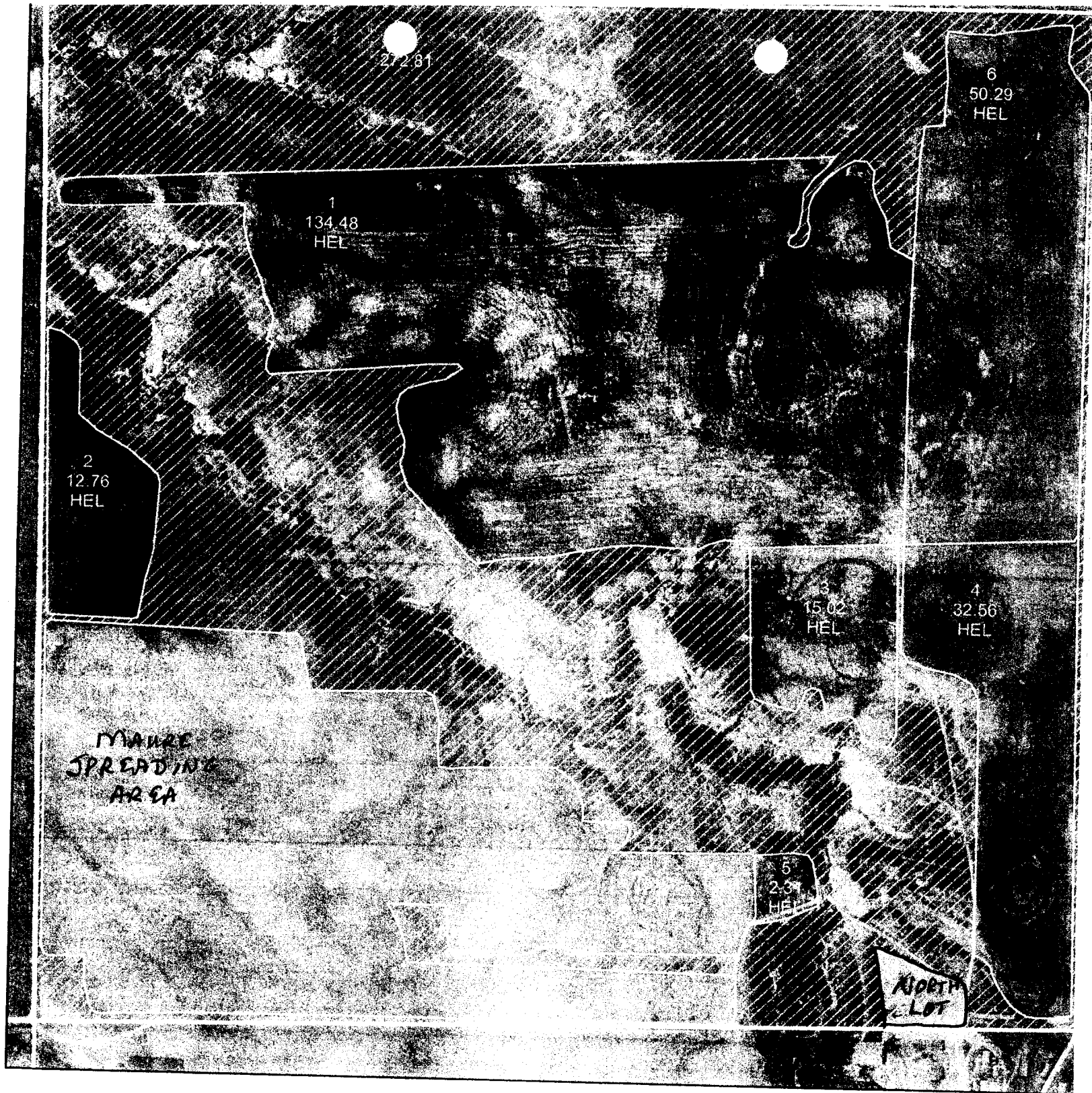
USDA  
Farm Service Agency



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Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.





February 14, 2008

Farm - Tract  
2266---1202

Section-Township-Range  
33 7 59

Dean Wang

**Fallon County**

☒ Rangeland



USDA  
Farm Service Agency



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